

REMARKS

At the time the present Office Action issued, claims 1 to 18 were pending.

Allowable subject matter

Numbered paragraph 8 identifies claims 4 and 10 as containing allowable subject matter. Applicant agrees, and thanks the Examiner accordingly. However, in view of arguments set forth below and traversing the rejections of the pending independent claims, Applicant has chosen not to rewrite the claims 4 and 10 at present.

Although not specifically mentioned, Claim 13 has also been considered to contain allowable subject matter, since no specific rejection has been supported in Paragraphs 4, 6 or 7. Examiner is respectfully requested to acknowledge allowability of this claim as well.

Specification

In Numbered paragraph 1 of the Office Action, the abstract of the disclosure has been objected to because of failure to comply with proper language and format.

Responsive to this objection, the Abstract of the disclosure has been amended to convey narrative format including multiple sentences.

Claim amendments

Although not specifically called for in the Office Action, the reference to Claim 8, in original Claim 13, has been replaced by a reference to Claim 9 in order to provide antecedent basis for the feature "the surface retrievable part".

Claim rejections under 35 USC § 102

In Numbered paragraphs 3 and 4, claims 15, 17, and 18 have been rejected under 35 USC § 102(b) as being anticipated by Harrell *et al* '023.

Relevant to Claim 15, the Office Action states that Harrell discloses a bottom hole assembly attachable to a tubular drill string. The bottom hole assembly has a drill bit, a drill steering system, and a surveying system. The bottom hole assembly is provided with a longitudinal internal passage for at least part of an auxiliary tool, such as a production tubing, which part is alleged in the Office Action to have a diameter of at least 5 cm.

Attorney respectfully traverses this rejection of Claim 15.

Contrary to the statements made in the Office Action, Harrell does not disclose a longitudinal internal passage for at least part of an auxiliary tool having a largest diameter of

at least 5 cm. Attorney for Applicant could not find any specific disclosure teaching the diameter of at least 5 cm, and indeed the Office Action does not state where in Harrell a diameter of at least 5 cm is taught.

Thus, the rejection of Claim 15 is not supported by the art, and for this reason withdrawal of the rejection is respectfully requested.

The other rejected claims, 17 and 18, each ultimately depend on Claim 15 and therefore it follows that Harrell does not anticipate these claims at least for the same reason.

However, Attorney for Applicant would respectfully submit additional detailed remarks concerning the rejections as argued in the Office Action.

Supposedly relevant to Claims 17 and 18, the Office Action states (in Numbered Paragraph 3) that the drill steering system in Harrell is provided in the form of a mud motor comprising a tubular stator and a rotor arranged in the tubular stator, and that there is a bit shaft, which is arranged to be driven by the rotor and suitable for transmittal of torque to a drill bit. It is then alleged that the rotor is releasably connected to the bit shaft so that the rotor can be longitudinally removed from the stator after disconnection from the bit shaft. The interior of the stator is said to form part of the longitudinal internal passage after removal.

Attorney for Applicant would remark that, contrary to the allegation in the Office Action, Harrell does not disclose that rotor being releasably connected to the bit shaft so that the rotor can be longitudinally removed from the stator after disconnection from the bit shaft. Instead, Harrell discloses (Col. 9 lines 50-52) "The rotor/stator assembly 60 (emphasis added) and the drive shaft 90 are retrievable from the completion assembly 30." and (Col. 10 lines 1-3) "Then, the operator can retrieve the work string 20 along with the rotor/stator assembly 60 (emphasis added), ...". Hence, the rotor/stator is retrievable as assembly, while nothing is taught about the rotor being longitudinally removed from the stator. Consequently, contrary to what is stated in the rejection, the stator in Harrell does not form part of the longitudinal internal passage after removal, after removal the stator has been retrieved together with the rotor.

Thus, also the additional features of Claims 17 and 18 over Claim 15 are lacking in Harrell's disclosure.

Claim rejections under 35 USC § 103

In Numbered paragraphs 5 and 6 of the Office Action, claims 1-3, 5-9, 11, 14, and 15 have been rejected under 35 USC § 103(a) as being unpatentable over Runia (WO 00/17488) in view of Schuh (US Pat. 5,931,239).

Claims 1-3 and 5-7

Supposedly relevant to Claim 1, the Office action states: Runia discloses a tubular drill string, which includes at its lower end a bottom hole assembly with a drill bit. The drill string includes a passageway for an auxiliary tool (40) from a first position interior of the drill string above the bottom hole assembly to a second position wherein at least part of the auxiliary tool is exterior of the drill string below the bottom hole assembly. The passage can be selectively closed. It is used to drill so as to progress the drill string into the earth formation, until a tool operating condition is met. Then opening the passageway and passing the auxiliary tool from the first position through the passageway to the second position where it is operated.

It is then stated, in the Office Action, that Runia does not disclose a rotary drill steering system, and a surveying system located in the bottom hole assembly.

Next, it is stated that Schuh discloses a steering system for use with a rotary drill string. It is said to operate in conjunction with a survey system/MWD.

It is then stated that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the steering/survey system of Schuh with the apparatus of Runia. This would, as is alleged, be done to allow for directional drilling with a high degree of control as taught by Schuh.

Attorney respectfully traverses this rejection of Claim 1, and Claims 2-3 and 5-7 which each ultimately depend on claim 1.

No *prima facie* case of obviousness has been established against claim 1, because the cited combination of references is based on an improper hindsight reasoning (MPEP §2145 X-A). MPEP §2141 II(B) and (C) set forth tenets of patent law that must be adhered to when applying 35 USC § 103 stating that the references must suggest the obviousness of making the combination and that the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention.

Viewing without benefit of hindsight, Runia teaches a though-drill string conveyed logging system. It shows and discusses embodiments of ports and closure elements in a drill bit, and an auxiliary tool of which a part can be brought, through the port in the drill bit, to the exterior of the drill string. No reference is made in any way to steering or directional drilling.

Schuh teaches an improved assembly for steering a rotating drill string, and it mentions advantages over existing directional drilling assemblies. Schuh, in the Summary of Invention, states that it is a general object of the invention to provide an improved assembly for steering a rotating drill string in a borehole (see Col. 2, lines 36-38).

However, neither Runia nor Schuh contains any hint or suggestion to combine a through-bit logging tool string with an assembly for steering a rotating drill string. Runia is completely silent about steering, while Schuh is silent about bringing a tool from the interior to the exterior of the drill string. The advantages mentioned in Schuh merely pertain to improvement of a steering assembly. Absent any steering capability in Runia, Schuh does not contain relevant disclosure to add to Runia. The advantages that Schuh mentions of his steering assembly over existing ones, are relevant only after the skilled person has made the mental step of combining Runia's disclosure with a steering apparatus of any kind. However, for that step the references contain no hint or teaching.

Thus, while the person of ordinary skill in the art perhaps could have combined the references, there is no factual support in the references showing that he would have done so, because Runia is silent about steering and Schuh is silent about bringing a tool from the interior to the exterior of a drill string. Thus, making the combination is motivated by impermissible hindsight. [see MPEP §2145 X-A and MPEP §2141 II(B) and (C)].

Since a suggestion of motivation, required for establishing a *prima facie* case of obviousness (See MPEP §2142, §2143), is lacking in the present case, it is respectfully requested to withdraw the present rejection of Claim 1 and Claims 2-3 and 5-7, each ultimately depending on Claim 1.

In addition to that, it is remarked that regarding Claim 7, the necessary *prima facie* case of obviousness has also not been established because the prior art references fail to teach or suggest all the claim limitations.

Neither of the references (Runia nor Schuh) discloses a longitudinal internal passage for at least part of an auxiliary tool having a largest diameter of at least 5 cm. Both disclosures are silent about sizes altogether.

Claims 8, 9, 11, 14 and 15

As stated above, Claims 8, 9, 11, 14, and 15 have also been rejected in Numbered paragraphs 5 and 6, as being unpatentable over Runia in view of Schuh.

Also in respect of these claims, no *prima facie* case of obviousness has been established. Firstly, as set forth above, the art does not suggest the cited combination of Runia and Schuh. Instead, the combination is made relying on impermissible hindsight.

Secondly, as also set forth above, the cited combination of references fails to disclose or teach every claim element because neither one of the references discloses a longitudinal internal passage for at least part of an auxiliary tool having a largest diameter of at least 5 cm.

For either one of these reasons, no *prima facie* case of obviousness has been established and accordingly withdrawal of the rejections is respectfully requested.

Claim 12

In Numbered paragraphs 6 and 7, Claim 12 has been rejected under 35 USC § 103(a) as being unpatentable over Runia in view of Schuh as applied to Claim 8, and further in view of Comeau (US 6,340,063).

It is stated in Paragraph 7 of the Office Action that Runia in view of Schuh shows all the limitations of the claimed invention, except it does not disclose that the survey system is a tubular sub that forms part of the passageway for the auxiliary tool. It is then stated that Comeau discloses a tubular sub MDW system that has a longitudinal passage for the passage of various tools.

Attorney for Applicant respectfully traverses this rejection.

As explained above, no *prima facie* case of obviousness has yet been established on basis of Runia in view of Schuh.

Comeau does not offer remedy, because it does not teach or suggest passage of a tool through the MWD. Lacking such teaching, and lacking any teaching in Runia that would suggest directional drilling, a combination of Runia with Comeau would not be obvious just like a combination of Runia with Schuh would not be obvious.

Moreover, Comeau does not compensate for the fact that the combination of Runia and Schuh does not disclose every claim limitation, because Comeau does not disclose a longitudinal internal passage for at least part of an auxiliary tool having a largest diameter of at least 5 cm. Like Runia and Schuh, also Comeau is silent about sizes altogether. In addition, contrary to the Examiner's statement, Comeau does not disclose that the tubular sub forms part of the passageway for the auxiliary tool. Instead, Comeau only mentions passage of fluids.

Therefore, it is respectfully submitted that no *prima facie* case of obviousness has been established with regard the Claim 12 and that for this reason the rejection should be withdrawn.

Concluding remarks

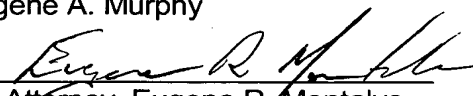
In conclusion, Attorney has addressed each and every ground for objection and rejection raised by the Examiner in the Office Action. In particular, novelty of Claims 15, 17, and 18 over Harrell has been demonstrated, and it has been demonstrated that no *prima facie* case of obviousness has been established against any of the claims.

This having been demonstrated, the applicant is presently under no obligation to provide evidence supporting non-obviousness (MPEP §2142).

Attorney respectfully submits that the specification and claims, as amended, are now in a state ready for allowance. In the event the Examiner has any questions or issues regarding the present application, the Examiner is invited to call the undersigned prior to the issuance of any written action.

Respectfully submitted,

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